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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/613,924	07/03/2003	Michael E. St. Lawrence	RGP-0116	4673
23413	7590	08/01/2006	EXAMINER	
CANTOR COLBURN, LLP 55 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002			ERDEM, FAZLI	
			ART UNIT	PAPER NUMBER
			2826	

DATE MAILED: 08/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/613,924	Applicant(s) ST. LAWRENCE ET AL.	
	Examiner Fazli Erdem	Art Unit 2826	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 08 May 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5, 6, 8, 10, 11, 14-16, 19, 20, 22, 23, 25-43, 45-53 and 55-68 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-3, 5, 6, 8, 10, 11, 14-16, 27, 28, 37-43, 45-47 and 55-68 is/are allowed.
- 6) ☒ Claim(s) 19, 20, 22, 23, 25, 26 and 48-53 is/are rejected.
- 7) ☒ Claim(s) 21, 24 and 29-36 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>05/08/2006</u> | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Allowable Subject Matter***

1. Claims 1-3, 5, 6, 8, 10, 11, 14-16, 27, 28, 37-43, 45-47 and 55-68
2. Claims 21 and 24 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Claim Objections***

3. Claims 29-36 are objected because of the last part of the claim, specifically, "said groups crosslink at a temperature is at least about 20 Celcius greater than the melt temperature of the liquid crystalline polymer". Examiner suggests placing a "that" in front of "is".

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 19, 20, 22, 23, 25, 26, and 48-53 rejected under 35 U.S.C. 103(a) as being unpatentable over Shaw et al. (5,125,138) in view of Schoenfeld et al. (6,180,025) further in view of St. Lawrence et al (5,571,609)

Regarding Claims, 19, 20, 22, 23, 25, 26, and 48-53, Shaw et al. disclose a miniaturized monolithic multi-layer capacitor and apparatus and method for making same

where in Figs. 1 and 4a, it is polymer dielectric layers 16 disposed on conductive layers 15. Shaw et al. fail to disclose the dielectric polymer layer to be crosslinkable liquid crystalline polymer of required group and the required fibrous web/particulate filler form of the dielectric configuration. However, Schoenfeld et al. disclose infra-red reflecting colorants where in columns 2, 5 and 6 and in claims 1, 2, 3, 9, 10, 11 and 12, the required crosslinkable liquid crystalline polymer comprising phenyl group is disclosed. Furthermore, St. Lawrence et al. disclose a polybutadiene and polyisoprene based thermosetting compositions and method of manufacture thereof where in Fig. 2, the required fibrous web form of the dielectric structure is disclosed.

Regarding Claims 2, 11, 16, 20, 28 and 38, the layer 13 in Shaw et al. is copper.

Regarding Claims 3, 5, 50 and 51, dielectric layer of St Lawrence, could be both flowable or non-flowable when crosslinked as disclosed in column 2 and in columns 36 and 37.

Regarding Claims 6, 37 and 45, Shaw et al. disclose a multi-layer structure with and conductive layer of copper.

It would have been obvious to one of having ordinary skill in the art at the time the invention was made to include the required crosslinkable liquid crystal polymer of phenyl group type in Shaw et al. as taught by Schoenfeld et al. in order to have a multi-layer circuit structure with increased reliability.

### *Conclusion*

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fazli Erdem whose telephone number is (571) 272-1914. The examiner can normally be reached on M - F 8:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on (571) 272-1915. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

FE  
July 17, 2006

NATHAN J. FLYNN  
SUPERVISOR, PATENT  
TECHNOLOGY CENTER